REMARKS

Claims 1-14, 45-84, 93-106 and 137-176 are subject to examination pursuant to a previous restriction/election requirement. The claims have been amended to clarify the recitation of the inventive subject matter, but Applicant submits the claim amendments do not substantively alter the scope of the claims. Accordingly, the claim amendments do not raise new issues of patentability requiring an additional search and/or examination, and thus should be entered even though being made in response to a Final Office Action.

Favorable reconsideration is respectfully requested in view of the claim amendments and following remarks.

I.   CLAIM REJECTIONS BASED ON BORZENKO

Claims 1-14, 45-84, 93-106, and 137-176 remain rejected pursuant to 35 U.S.C. § 102(e) as being anticipated by Borzenko, U.S. Patent No. 6,963,855 (Borzenko). Indeed, aside from the Response to Arguments section of the Final Office Action, the rejections are essentially verbatim to the rejections in the previous Office Action. Furthermore, even the Response to Arguments provides little additional analysis, but merely summarizes Applicant's previous arguments and restates the rejections in conclusory fashion.

Overviews of the claimed invention and the system of Borzenko are set forth in the response to the previous Office Action. Applicant refers the Examiner to such response for details regarding the two systems. The following sections are directed toward the various distinctions between the claimed invention and the system Borzenko, including a reply to the Examiner's Response to Arguments section of the Final Office Action.

A.   Wholesale Deficiencies of Borzenko

As described in response to the previous Office Action, the claims recite various calculations based on tracked market maker activity. The results of such calculations function as indicators of a temporary imbalance in market maker activity for at least one of the tracked securities.

For a selected set of securities, the claimed invention keeps track of every individual market maker on a security by security basis, and for each market maker, the claimed invention keeps track of every bid and ask. Since Borzenko does not disclose or suggest tracking individual market maker activity **at all**, the system of Borzenko could not possibly disclose or suggest calculating the specific indicators recited in the claims.

Borzenko discloses a system for calculating and displaying the rapidity of Nasdaq Level II bid-ask price quote changes in a user selected group of individual securities. The system includes determining a list of a predetermined number of "top moving securities" based on a determination of "security momentum". "Security momentum" is referred to in Borzenko as a numeric indication of relative security price motion. (Col. 3, lines 34-36; col. 4, lines 14-15.) Specifically, Borzenko refers to "ticks" as a change in the quoted price of a security. Thus, a quote increase is an "up tick", and a quote decrease is a "down tick". The tick quote may be either a bid or an ask. (Col. 7, lines 18-21; col. 7, line 65 to col. 8, line 18; col. 12, lines 42-50.) Each tick also has an associated "tick time" when the tick was received. (Col. 7, lines 22-23.) The security momentum is calculated by calculating a time difference between the current time for each tick, and then summing the calculated time differences. (Col. 10, lines 44-57; Figs. 9A-9B.) In other words, security momentum is a measure of how rapidly the quote price of a security is changing based on the time differences between receiving each tick (up or down) and the current time.

The examiner may be confused by the use of the same word "tick" in the current application, and as used by Borzenko. As one skilled in the art is aware, a tick is commonly referred to as a new piece of information from the market maker. A change in the volume of a bid or an ask would therefore constitute a new tick. Therefore, Applicant uses the work "tick" to describe any change in a market maker quote, comparably as to how the term "tick" is generally understood by those of ordinary skill in the art. By contrast, Borzenko employs a non-standard definition of the word "tick". Borzenko only recognizes a tick as a change in bid price or ask price. **Borzenko's**

"ticks' are a limited subset of the "ticks" used in Applicant's system. This is another reason Borzenko does not disclose or suggest the claimed invention.

The Examiner's rejections of the various claims generally stem from the Examiner's erroneous characterization that Borzenko's security momentum equates to the claimed calculations and resultant indicators. **Borzenko's calculation of security momentum, however, differs completely from the indicators calculated in the claimed invention.**

The claimed indicators are dependent on, and are based upon, the tracking of the market activity of the individual market makers. The system of Borzenko does not keep track of individual market makers (MMIDs) at all, and certainly does not associate an MMID with a tick price.

Relatedly, changes in "ticks" as disclosed by Borzenko bear no relation to whether a price quote associated with an individual market maker (MMID) is at the inside quote price. A tick, as defined by Borzenko, can occur at any price. In contrast to the claimed invention, the system of Borzenko simply does not distinguish between the inside quote price or any other quote price. Borzenko merely keeps track of the quote price changes in the Nasdaq Level II data stream for a security **without regard to the quote price location** among all of the bids and asks, and **without regard to the MMID associated with a quote price change.** Accordingly, Borzenko does not teach using information relating to market maker activity at the inside market *at all*. For these reasons alone, Borzenko does not disclose or suggest the calculations of the specific indicators recited in the claims.

B.   Passage of Borzenko Newly Cited By the Examiner

Applicant can identify only one new passage of Borzenko currently relied upon by the Examiner as compared to the previous Office Action: Borzenko at col. 12, lines 35-50. The Examiner cites this passage as part of Borzenko's purported disclosure of the indicator recited in independent claims 1 and 100 determined by calculating a total number of market makers at the inside market, and a difference between a number of market makers at an inside bid price and a number of market makers at an inside ask

price. The newly-cited passage of Borzenko merely describes the representation of the "ticks" data structure as depicted in Fig. 12. **The cited passage bears absolutely no relation to market maker activity at the inside market.**

Accordingly, the newly-cited passage of Borzenko does not warrant a rejection of the claimed invention. As to the previously cited passages of Borzenko relied upon by the Examiner, in response to the previous Office Action Applicant demonstrated on an individual basis how each such passage differs from the claimed invention. (See Response filed March 16, 2009, to Office Action of November 20, 2008, pages 51-53.) In the current Final Office Action, the Examiner does not specifically respond to these arguments. The Examiner, therefore, has not demonstrated that any of the cited passages of Borzenko reads on the claimed invention.

C. Applicant's Reply and Analysis of Specific Claim Groups

In the following sections, Applicant replies to the Examiner's Response to Arguments set forth in the Final Office Action. As in the response to the previous Office Action, the claims are analyzed in pairs of an independent method claim and a corresponding independent computer readable medium claim. Insofar as the rejections are the same as in the previous Office Action, Applicant herein focuses on the additional comments made by the Examiner in the Response to Arguments section of the Final Office Action.

1. Independent Claims 1 and 93

Independent claims 1 and 93 each recite for each security in a set of securities, calculating a total number of market makers at the inside market, and a difference between the number of market makers at an inside bid price and the number of market makers at an inside ask price. The spread between the number of market makers at the inside bid price versus the inside ask price functions as an indicator of a temporary imbalance in market maker activity for a security. For example, if market maker activity is weighted heavily toward the bid side (i.e., a relatively substantial number of market makers are looking to buy), a trader may presume there is upward pressure on the

security price due to the high demand. The reverse is true if market maker activity is heavily weighted toward the ask (sell) side.

In the Response to Arguments, the Examiner asserts such features are disclosed in Borzenko at col. 2, lines 35-60 and col. 12, lines 35-50. The Examiner states: "The data representing the ticks comprise a security symbol, a tick direction, and a side. Based on the movement of the tick and information generated from the market maker activity, a list is generated indicating the difference in the movements of the security or securities."

Borzenko's monitoring of simple tick movement by security symbol, tick direction, and side differs from the claimed invention. The system of Borzenko simply does not track the activity of the individual market makers (MMIDs). In addition, a tick as disclosed in Borzenko is not limited to quotes at the inside market. **Since Borzenko does not differentiate or keep track of any tick's location, let alone the inside bid and ask ticks**, it follows that Borzenko does not disclose or suggest: (1) calculating a total number of market makers at the inside market, and (2) calculating a difference between a number of market makers at an inside bid price and a number of market makers at an inside ask price, as recited in claims 1 and 93.

2. Independent Claims 8 and 100

Independent claims 8 and 100 recite for each security in a set of securities, calculating a total volume of shares at the inside market, and at least one of a difference between a number of shares at an inside bid price and a number of shares at an inside ask price, or a percent of inside market shares at the inside bid price as compared to a percent of inside market shares at the inside ask price. Similar to the calculations recited in claims 1 and 93, the calculations recited in claims 8 and 100 function as an indicator of whether or not market maker activity is imbalanced toward either the bid (buy) side or ask (sell) side. In the calculations of claims 8 and 100, the market maker activity with respect to the bid side versus the ask side is measured based on the number of shares or percent of shares at the inside bid price versus the inside ask price.

In the Response to Arguments, the Examiner asserts such features are disclosed in Borzenko at col. 3, lines 25-41. The Examiner states: "The price of the stock will move in relation to the volume of shares of the stock trading. The data representing the tick is received and a list is generated comprising calculating from the stored tick times a security momentum for the security identified by the symbol representing the tick, said security momentum being a numeric indication of relative security price motion."

As demonstrated above, however, Borzenko's calculation of security momentum differs completely from the indicators calculated in the claimed invention. The claimed indicators are based upon the tracking of the market activity of the individual market makers. Borzenko's security momentum is not based on activity of individual market makers, insofar as MMIDs are not associated with tick prices in determining security momentum. In addition, the ticks are not reflective of the inside market, but may occur at any price. Furthermore, the quantity of shares plays no role in the derivation of the tick data. No quantification of shares associated with a tick is performed in the system of Borzenko, whether on a numerical or a percentage basis. Also, as described above, Borzenko does not consider a change in volume that may occur in a bid or an ask without a change in price, to be tick. **Borzenko's ticks are an incomplete subset of the data items used in the claimed invention, and, therefore, cannot possibly calculate the volume related indicators of the claimed invention.**

It follows, therefore, that Borzenko does not disclose or suggest: (1) calculating a total volume of shares at the inside market, and (2) calculating at least one of a difference between a number of shares at an inside bid price and a number of shares at an inside ask price, or (3) a percent of inside market shares at the inside bid price as compared to a percent of inside market shares at the inside ask price, as recited in claims 8 and 100.

3. Independent Claims 45 and 137, and 58 and 150

Independent claims 45 and 137 recite, on a security by security basis, comparing an aspect of market maker inside market activity at a first time period versus a second time period. The aspect of market maker activity to be compared at the two time

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periods may be selected from at least one of a number of bids, a number of asks, a bid volume of shares, an ask volume of shares, a volume of shares per bid, or a volume of shares per ask. Similar to the calculations recited in the previous claims, the calculations recited in claims 45 and 137 function as an indicator of whether or not market maker activity is imbalanced toward either the bid (buy) side or ask (sell) side. For example, changes reflecting increased bid activity from the first time period to the second time period may be indicative of an upward price pressure, and changes reflecting increased ask activity from the first time period to the second time period may be indicative of a downward upward price pressure.

In the Response to Arguments, the Examiner asserts Borzenko discloses comparing market activity at a first time period versus a second time period insofar as security momentum is calculated based on differences between the current time and stored tick times (citing Borzenko at col. 3, lines 35-40). Even if the Examiner is correct on the specific point that Borzenko relies on data at first and second time periods, Borzenko does not otherwise disclose or suggest the calculations and resultant indicators of the claimed invention.

Identically to the above, in the Response to Arguments the Examiner asserts the calculations of claims 45 and 137 are disclosed in Borzenko at col. 3, lines 25-41. The Examiner again states: "The price of the stock will move in relation to the volume of shares of the stock trading. The data representing the tick is received and a list is generated comprising calculating from the stored tick times a security momentum for the security identified by the symbol representing the tick, said security momentum being a numeric indication of relative security price motion."

Once again, however, Borzenko's calculation of security momentum differs completely from the indicators calculated in the claimed invention. The claimed indicators are based upon the tracking of the market activity of the individual market makers. Borzenko's security momentum is not based on activity of individual market makers, insofar as MMIDs are not associated with tick prices in determining security momentum. In addition, the ticks are not reflective of the inside market, but may occur at any price. Furthermore, the quantity of shares plays no role in the derivation of the

tick data. The system of Borzenko thus does not disclose determining a number of bids/asks associated with a given tick, nor the corresponding volume of shares. Also, as described above, Borzenko does not consider a change in volume that may occur in a bid or an ask without a change in price, to be tick. **Borzenko's ticks are an incomplete subset of the data items used in the claimed invention, and, therefore, cannot possibly calculate the volume related indicators of the claimed invention.**

It follows, therefore, that Borzenko does not disclose or suggest: (1) comparing an aspect of *market maker inside market activity* at a first time period versus a second time period, and (2) calculating at least one of a number of bids, a number of asks, a bid volume of shares, an ask volume of shares, a volume of shares per bid, or a volume of shares per ask, as recited in claims 45 and 147.

Applicant notes the Examiner appears to have ignored certain features of claims 58 and 150 in the Response to Arguments section of the Final Office Action. Claims 58 and 150 are similar to claims 45 and 137 in comparing an aspect of market maker inside market activity at a first time period versus a second time period. Claims 58 and 150 additionally recite that the calculations are performed for a selected market maker, and therefore provide an analysis focused on that specific market maker. As stated above, Borzenko's security momentum is not based on activity of individual market makers, insofar as MMIDs are not associated with tick prices in determining security momentum. Borzenko, therefore, does not disclose or suggest the additional features recited in claims 58 and 150 by which the calculations are performed for a selected market maker.

4. Independent Claims 72 and 164

Independent claims 72 and 164 recite, for each security and market maker pair from a set of securities and a set of market makers, counting at least one of a number of times that a bid having an inside bid price is placed, or a number of times that an ask having an inside ask price is placed. Similar to the calculations recited in the previous claims, the calculations recited in claims 72 and 164 function as an indicator of whether or not market maker activity is imbalanced toward either the bid (buy) side or ask (sell)

side. Again, such an imbalance may be presumed by a trader to be indicative of a commensurate temporary price pressure.

In calculating the indicators of claims 72 and 164, the market maker activity with respect to the bid side versus the ask side is measured based on the number of times, for a given security, a given market maker has a bid at the inside bid or an ask at the inside ask. A market maker's persistence in placing a bid at the inside bid may be indicative of a buy sentiment for the market maker, and a market maker's persistence in placing an ask at the inside ask may be indicative of a sell sentiment for the market maker. If a trader regards the market maker as a particularly significant player with respect to the relevant security, the market maker's activity at the inside bid or inside ask may be indicative of a commensurate price pressure on the relevant security.

Applicant notes the Examiner appears to have ignored the features of claims 72 and 164 in the Response to Arguments section of the Final Office Action. Borzenko does not disclose or suggest such features insofar as the system of Borzenko, as demonstrated above, does not track the activity of individual market makers at all. In addition, since **Borzenko does not differentiate or keep track of any tick's location, let alone the inside bid and ask ticks**, it follows that Borzenko does not disclose or suggest determining the number of times a particular market maker is at the inside bid or inside ask for a given symbol, as recited in claims 72 and 164.

5. *Independent Claims 77 and 169*

Independent claims 77 and 169 recite, for each security and market maker pair from a set of securities and a set of market makers, counting at least one of: a number of times the market maker is a first market maker to post an inside bid that is higher than an immediately preceding inside bid for the security, or a number of times the market maker is a first market maker to post an inside ask that is lower than an immediately preceding inside ask for the security. Similar to the calculations recited in the previous claims, the calculations recited in claims 77 and 169 function as an indicator of whether or not market maker activity is imbalanced or weighted toward either the bid (buy) side or ask (sell) side. Again, such an imbalance may be presumed by a trader to be indicative of a commensurate temporary price pressure.

Similar to the calculated indicators of claims 72 and 164, the calculated indicators of claims 77 and 169 demonstrate a market maker's persistence in placing a bid at the inside bid or persistence in placing an ask at the inside ask. In other words, the fact that a market maker is commonly the first to bid above the inside bid may be indicative of a buy sentiment for the market maker, and the fact that a market maker is commonly the first to ask below the inside ask may be indicative of a sell sentiment for the market maker. Once more, if a trader regards the market maker as a particularly significant player with respect to the relevant security, the market maker's activity relative to immediately preceding inside bids or inside asks may be indicative of a commensurate price pressure on the relevant security.

As with respect to previous claims, in the Response to Arguments the Examiner asserts the calculations of claims 72 and 164 are disclosed in Borzenko at col. 3, lines 25-41. The Examiner again states: "The price of the stock will move in relation to the volume of shares of the stock trading. The data representing the tick is received and a list is generated comprising calculating from the stored tick times a security momentum for the security identified by the symbol representing the tick, said security momentum being a numeric indication of relative security price motion."

Once again, however, Borzenko's calculation of security momentum differs completely from the indicators calculated in the claimed invention. The claimed indicators are based upon the tracking of the market activity of the individual market makers. Borzenko's security momentum is not based on activity of individual market makers, insofar as MMIDs are not associated with tick prices in determining security momentum. In addition, the ticks are not reflective of the inside market, but may occur at any price.

Since Borzenko does not differentiate or keep track of any tick's location, let alone the inside bid and ask ticks, **nor track the activity of individual market makers,** it follows that Borzenko does not disclose or suggest: (1) for each security and *market maker pair* from a set of securities and a *set of market makers*, (2) counting at least one of: a number of times the market maker is a first market maker to post an inside bid that is higher than an immediately preceding inside bid for the security, or a

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number of times the market maker is a first market maker to post an inside ask that is lower than an immediately preceding inside ask for the security, as recited in claims 77 and 169.

II.   CONCLUSION

For at least the foregoing reasons, Borzenko does not disclose or suggest the calculations and resultant indicators recited in independent method claims 1, 8, 45, 58, 72, and 77, and respective corresponding independent computer readable medium claims 93, 100, 137, 150, 164, and 169. Accordingly, Borzenko does not anticipate the claimed invention. The dependent claims depending from such independent claims are patentable for at least the same reasons. The rejections, therefore, should be withdrawn.

For at least these reasons, claims 1-14, 45-84, 93-106 and 137-176 are allowable and the application is believed to be in condition for allowance. A prompt action to such end is respectfully requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to any outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988, Docket No. CUTSP0104US.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

By   /Lawrence S. Drasner/
        Lawrence S. Drasner; Reg. No. 38,127

1621 Euclid Avenue
Nineteenth Floor
Cleveland, Ohio 44115
Telephone: (216) 621-1113
Facsimile: (216) 621-6165